

**IN THE CLAIMS**

1. (currently amended) A wave reducing hull for a vessel having a bow, midbody and a stern; said hull being characterized in having comprising:

- (a) a generally triangular waterplane having a pointed end adjacent said bow, and a maximum water beam adjacent said stern;
  - (b) said waterplane having a generally rectilinear diverging sides extending substantially from said pointed end to said maximum water beam;
  - (c) said waterplane having a midbody water beam substantially smaller than said maximum water beam;
  - (d) said hull having a draft adjacent said pointed end deeper than the draft adjacent said maximum water beam; and
  - (e) said draft adjacent said pointed end being no greater than approximately thirty three percent (33%) of said maximum water beam adjacent said stern.

a generally triangular hull having a pointed narrow bow portion and a stern portion having a beam wider than said bow portion;

said hull including generally rectilinear diverging sides extending substantially from said bow to said stern;

said hull having a draft adjacent said bow deeper than the draft adjacent said stern; and

said draft adjacent said bow being no greater than approximately thirty-three percent (33%) of said beam of said stern portion.

**2. (original)** The ship hull of claim 1 wherein said bow portion of said hull is generally free of depending structures.

- 1           3. (canceled)
- 2           4. (canceled)
- 3           5. (canceled)
- 4           6. (canceled)
- 5           7. (canceled)
- 6           8. (canceled)
- 7           9. (canceled)
- 8           10. (canceled)
- 9           11. (canceled)
- 10          12. (canceled)
- 11          13. (currently amended) A transonic hull with a displacement body portion below waterplane having in hydrostatic conditions a length, a bow, a midbody portion, a stern, and a generally triangular waterplane with an apex adjacent said bow and a wide waterplane beam base adjacent said stern and a waterplane beam adjacent said midbody portion substantially smaller than said wide waterplane beam, said body portion having a first draft adjacent said bow substantially greater than a second draft adjacent said wide waterplane beam stern; said body portion being further characterized in having three principal longitudinal surface components, two of which form principal right and left side surface elements of said body portion, with the third principle longitudinal surface component forming a principal bottom surface element of said body portion.
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21          14. (original) The structure of claim 13 in which said submerged body portion has a longitudinal axis at its waterplane, with athwartship crosssections perpendicular to said longitudinal axis, and with the projection of said crosssections in end view forming a single peripheral envelope of said crosssections with generally flat sides.
- 22
- 23
- 24
- 25
- 26          15. (currently amended) A transonic hull with a displacement body portion below waterplane having in hydrostatic condition a length, a bow, a midbody portion, a stern, and a
- 27
- 28

1 generally triangular waterplane with a longitudinal axis, with a sharp end ~~an apex~~ adjacent said bow,  
2 and a wide waterplane beam ~~base~~ adjacent said stern and a waterplane beam adjacent said midbody  
3 portion substantially smaller than said wide waterplane beam, said body portion having a first draft  
4 adjacent said bow substantially greater than a second draft adjacent said wide waterplane beam ~~stern~~,  
5 said body portion being further characterized in that the lateral edges of said waterplane adjacent and  
6 meeting at said apex are substantially rectilinear, and in that the angle included between each of said  
7 lateral edges and said longitudinal axis is an acute angle of approximately 7°.

8

9       16. (original) The structure of claim 15 further characterized in that the flow exit angle in  
10 side view established between a rearward undersurface portion adjacent said stern and a line parallel  
11 to waterplane intercepting the lower corner of said stern, being no greater than approximately the  
12 angle between said lateral edges adjacent said apex.

13

14       17. (original) The structure of claim 16 further characterized in that said flow exit angle is  
15 approximately 60% of the angle between said lateral edges adjacent said apex.

16

17       18. (currently amended)      A Transonic Hull having a submerged portion with a bow, a  
18 midbody portion, a stern and a length, with power means to move said hull in the water from a first  
19 stationary hydrostatic displacement condition to a second subcritical speed displacement regime and  
20 to a third faster super critical speed displacement regime, said submerged portion being further  
21 characterized in having:

22

23           (a) a generally triangular waterplane with a sharp end ~~apex~~ adjacent said bow, and a wide  
24 waterplane beam ~~base~~ adjacent said stern and a waterplane beam adjacent said midbody  
25 portion substantially smaller than said wide waterplane beam,

26

27           (b) a profile with a deeper draft adjacent said bow, the submerged part of said bow being

1 generally free of depending structures, and a smaller draft adjacent said wide waterplane  
2 beam stern,

3  
4 (c) and with the draft of said stern varying from approximately 4% of said base relative to  
5 a static waterplane in said hydrostatic condition, to substantially zero relative to the water  
6 surface adjacent and downstream of said stern when in said subcritical and super critical  
7 regimes.

8  
9 19. (currently amended) A Transonic Hull having a submerged portion with a bow, a  
10 stern and a length, with power means to move said hull in the water from a first stationary  
11 hydrostatic displacement condition to a second subcritical speed displacement regime and to a third  
12 faster super critical speed displacement regime, said submerged portion being further characterized  
13 in having:

14  
15 (a) a generally triangular waterplane with sharp end apex adjacent said bow and a wide  
16 waterplane beam base adjacent said stern, with generally straight right and left waterplane  
17 sides extending from said sharp end to outboard portions of said wide waterplane beam, said  
18 sides being generally free of inflections,

19  
20 (b) a profile with a deeper draft adjacent said bow and no bulb, and a smaller draft adjacent  
21 said wide waterplane beam stern,

22  
23 (c) with the center of gravity of a boat incorporating said submerged portion located at a  
24 distance from said stern at least as great as forward approximately 38% of said length of said  
25 submerged portion.

26  
27 20. (currently amended) A Transonic Hull having a submerged portion with a bow, a  
28

1 stern and a length, with power means to move said hull in the water from a first stationary  
2 hydrostatic displacement condition to a second subcritical speed displacement regime and to a third  
3 faster super critical speed displacement regime, said submerged portion being further characterized  
4 in having:

5  
6 (a) a generally triangular waterplane, with apex adjacent said bow and a waterplane beam  
7 base adjacent said stern, with generally rectilinear waterplane sides, and with the ratio of said  
8 length to the beam of said waterplane beam base no less than approximately four (4).

9  
10 (b) a profile with a deeper draft adjacent said bow and no bulb, and a smaller draft adjacent  
11 said waterplane beam stern,

12  
13 (c) with said waterplane having a centroid of area, and the boat incorporating said submerged  
14 portion having a center of gravity, with the distance of said center of gravity forward of said  
15 center of area being no less than approximately 5% of said length of said waterplane.

16  
17 21. (currently amended) A wave reducing hull for a vessel comprising:

18  
19 a generally triangular hull having a pointed narrow bow portion, a midbody portion, and a stern  
20 portion having a beam wider than the width of said midbody portion said bow portion;  
21  
22 said hull having including generally rectilinear diverging sides extending substantially from said  
23 bow to said stern;

24  
25 said hull further characterized in having (a) a generally triangular waterplane in static conditions  
26 with a narrow end forward, a rear water beam adjacent said stern portion, and a longitudinal  
27 waterline length there between; (b) a center of gravity location no less than approximately

38.5% of said longitudinal waterline length measured forward of said rear water beam; (c) power means to propel said vessel to a speed to length ratio no less than approximately 1.25 with said speed expressed in knots and said length defined as the square root of said longitudinal water length expressed in feet;

said hull having in said static condition a draft adjacent said bow deeper than the static draft adjacent the rear water beam said stern; and

said draft adjacent said rear water beam stem being between approximately one percent (1%) and approximately four and one-half percent (4.5%) of said beam of said stem portion.